

Draft Environmental Assessment for the Bass Lake Restoration Project

May 2013

Prepared by:

MONTANA FISH, WILDLIFE & PARKS
FISHERIES DIVISION



***Montana Fish,
Wildlife & Parks***

Table of Contents

EXECUTIVE SUMMARY	1
PART I: PROPOSED ACTION DESCRIPTION	3
A. Type of Proposed Action:	3
B. Agency Authority for the Proposed Action:	3
C. Estimated Commencement Date:	3
D. Name and Location of the Project:	4
E. Project Size (acres affected):	4
F. Narrative Description of Proposed Action:	8
Background	8
Proposed Activities	9
PART II. ALTERNATIVES.....	10
Alternative 1 – No Action Alternative.....	10
Alternative 2 – Mechanical removal of northern pike from Bass Lake and Mud Creek, and then restocking with westslope cutthroat trout (Proposed Action).....	11
Alternatives considered, but eliminated from detailed study.....	11
PART III. ENVIRONMENTAL REVIEW OF THE NO ACTION ALTERNATIVE.....	12
A. PHYSICAL ENVIRONMENT.....	12
1. LAND RESOURCES	12
2. WATER	12
3. AIR.....	13
4. VEGETATION.....	13
5. FISH/WILDLIFE.....	14
B.HUMAN ENVIRONMENT	14
6. NOISE/ELECTRICAL EFFECTS.....	14
7. LAND USE.....	15
8. RISK/HEALTH HAZARDS	15
9. COMMUNITY IMPACT	15
10. PUBLIC SERVICES/TAXES/UTILITIES	16

11. AESTHETICS/RECREATION	16
12. CULTURAL/HISTORICAL RESOURCES	17
13. SUMMARY EVALUATION OF SIGNIFICANCE	17
PART IV. ENVIRONMENTAL REVIEW OF PROPOSED ACTION	18
A. PHYSICAL ENVIRONMENT	18
1. LAND RESOURCES	18
2. WATER	19
3. AIR.....	19
4. VEGETATION	20
5. FISH/WILDLIFE.....	21
B.HUMAN ENVIRONMENT	24
6. NOISE/ELECTRICAL EFFECTS.....	24
7. LAND USE.....	24
8. RISK/HEALTH HAZARDS	24
9. COMMUNITY IMPACT	25
10. PUBLIC SERVICES/TAXES/UTILITIES	25
11. AESTHETICS/RECREATION	26
12. CULTURAL/HISTORICAL RESOURCES	26
13. SUMMARY EVALUATION OF SIGNIFICANCE	27
PART V. ENVIRONMENTAL ASSESSMENT CONCLUSION SECTION	28
Is an environmental impact statement required?	28
Public involvement	28
Comment period.....	28
REFERENCES	29

LIST OF FIGURES

Figure 1. Location of the Bass Lake Restoration Project area (red star), located on the west side of US Hwy. 93 approximately 6 miles southeast of Eureka, Montana..... 5

Figure 2. Location of the Bass Lake Restoration Project area, including Bass Lake and Mud Creek. Mud and Therriault Creeks flow in north-western direction..... 6

Figure 3. Bathymetric map of Bass Lake (1-foot contour lines) which has a surface area of 11.8 acres, a maximum depth of 11.5 feet, and a volume of 50.6 acre-feet. 7

EXECUTIVE SUMMARY

Mud Creek originates in the Whitefish Mountain Range and flows approximately 5.7 miles across private and public land (USFS) before flowing into Bass Lake (Figure 1), an artificial lake created by an earthen dam in the mid to late 1940s. Mud Creek leaves Bass Lake and flows another 0.3 miles before entering Therriault Creek approximately 0.8 miles upstream of the confluence of Therriault Creek and the Tobacco River (Figure 2). Therriault Creek enters the Tobacco River approximately 12.5 miles upstream of Lake Koocanusa (Figure 1). Bass Lake is located on the west side of Highway 93 approximately 6 miles southeast of Eureka, Montana, has a surface area of 11.8 acres, and a maximum depth of approximately 11.5 feet. Shortly after the Bass Lake Dam was constructed, largemouth bass (*Micropterus salmoides*) and bluegill (*Lepomis macrochirus*) were illegally introduced to the Mud Creek watershed, and sometime in the mid 1990s northern pike were illegally introduced to Bass Lake (MFWP unpublished data).

Bass Lake is a small, shallow lake with abundant aquatic vegetation, but a limited prey base, which likely contributes to northern pike emigrating from this water body. Lower Mud Creek, Therriault Creek, and the Tobacco River have limited habitat suitable for northern pike. Therefore, the northern pike that emigrate from Bass Lake likely continue downstream to Lake Koocanusa. Northern pike are predatory fish that eat native salmonids, including westslope cutthroat trout and bull trout, which can have detrimental effects on these native fish populations. The removal of northern pike would remove the most likely source of northern pike entering the Tobacco River and Lake Koocanusa, helping to prevent the establishment of a self-sustaining northern pike population in these waters. Northern pike removal from Bass Lake would also reduce predation on native and other important sport fishes.

This document is an environmental assessment (EA) of the potential consequences of removal of northern pike, followed by reintroduction of native westslope cutthroat trout in Bass Lake. EAs are a requirement of the Montana Environmental Policy Act (MEPA), which requires state agencies to consider the environmental, social, cultural, and economic effects of proposed actions. This EA considers two alternatives:

1. No action.
2. The primary actions covered by this EA are removal of northern pike from Bass Lake using a combination of netting, electrofishing (the use of electricity to capture stunned fish), and trapping at the outlet of Bass Lake, followed by reintroduction of non-hybridized westslope cutthroat trout.

Alternative 2 is the preferred alternative. Montana Fish, Wildlife & Parks (MFWP) would use gill nets as the primary removal method over a 2-year period and then evaluate the success of the effort. This project would define success as the complete removal of all age classes of northern pike from those waters upstream of the Bass Lake outlet that could reestablish a population. Evaluation of the potential effects indicates this approach may have minor, or short-term and minor, effects on nontarget birds and mammals that become entangled in the gill nets. MFWP would minimize these effects by limiting the duration the

nets fish without removing captured fish and properly disposing of dead fish to limit attraction.

MEPA also requires public involvement and opportunity for the public to comment on projects undertaken by state agencies. A 30-day public comment period will extend from May 9 through June 8, 2013. If public interest is sufficient, FWP will hold a public meeting(s). Interested parties should send comments to:

Montana Fish, Wildlife & Parks
c/o Bass Lake EA comments
385 Fish Hatchery Road
(406) 293-4161
Libby, MT 59923

PART I: PROPOSED ACTION DESCRIPTION

A. Type of Proposed Action:

Montana Fish, Wildlife & Parks (MFWP) is proposing to test mechanical methods to remove a northern pike (*Esox lucius*) population in Bass Lake and Mud Creek in northwest Montana using a combination of netting, trapping, and electrofishing. If the removal of the northern pike is successful, MFWP may restock the lake with native westslope cutthroat trout (*Oncorhynchus clarkii lewisii*). Northern pike are predatory fish that eat native salmonids, including westslope cutthroat trout, which has detrimental effects on native fish populations. The removal of northern pike would help restore native fish populations in the Tobacco River and Lake Koocanusa, which Bass Lake and Mud Creek feed. The Bonneville Power Administration (BPA) is proposing to fund the Bass Lake Restoration Project.

B. Agency Authority for the Proposed Action:

MFWP Authority under State Law:

87-1-702. Powers of MFWP relating to fish restoration and management. The department [MFWP] is hereby authorized to perform such acts as may be necessary to the establishment and conduct of fish restoration and management projects as defined and authorized by the act of congress, provided every project initiated under the provisions of the act shall be under the supervision of the department, and no laws or rules or regulations shall be passed, made, or established relating to said fish restoration and management projects except they be in conformity with the laws of the state of Montana or rules promulgated by the department, and the title to all lands acquired or projects created from lands purchased or acquired by deed or gift shall vest in, be, there remain in the state of Montana and shall be operated and maintained by it in accordance with the laws of the state of Montana. The department shall have no power to accept benefits unless the fish restoration and management projects created or established shall wholly and permanently belong to the state of Montana, except as hereinafter provided.

87-1-201. Powers and Duties. Subsection (9)(a) The department shall implement programs that:

(i) manage wildlife, fish, game, and nongame animals in a manner that prevents the need for listing under [87-5-107](#) or under the federal Endangered Species Act, 16 U.S.C. 1531, et seq.;

(ii) manage listed species, sensitive species, or a species that is a potential candidate for listing under [87-5-107](#) or under the federal Endangered Species Act, 16 U.S.C. 1531, et seq., in a manner that assists in the maintenance or recovery of those species.

C. Estimated Commencement Date:

This project would commence in late spring/summer 2013. MFWP anticipates that complete removal of northern pike, if possible, will require a prolonged effort due to the relatively low capture efficiency of the nets, traps, and electrofishing techniques being proposed. Therefore,

these removal efforts will be reevaluated after a 2-year period to determine probability of success.

D. Name and Location of the Project:

This project is referred to as the Bass Lake Restoration Project, and the purpose of the project is to remove northern pike from Bass Lake and Mud Creek and restock the lake with westslope cutthroat trout. This project would be conducted within the Mud Creek watershed located approximately 6 miles southeast of the city of Eureka, Montana. Specifically, Bass Lake is located within Township 35 North, Range 26 West, Section 4, Lincoln County, Montana (Figure 1), Latitude 48.824285 degrees North, Longitude -114.95830 degrees West. Mud Creek and the vast majority of Bass Lake are located on private property, but a small portion of the northeast side of the lake is bordered by National Forest (Figure 2).

E. Project Size (acres affected):

Bass Lake is an earthen dam impoundment on Mud Creek with a surface area of 11.8 acres, a maximum depth of approximately 11.5 feet, and a volume of 50.6 acre-feet (Figure 3). Mud Creek is a small second-order stream with a base flow that ranges from about 1-3 cubic feet per second (cfs) and a bankfull width of approximately 4-8 feet. The proposed fish removal efforts would encompass Bass Lake and approximately 1,370 feet of Mud Creek between Bass Lake and a small dam (Mill Pond, Figure 2) upstream of Bass Lake, which is an upstream fish migration barrier. Approximately 1,700 feet of Mud Creek between Bass Lake and its confluence with Therriault Creek would also be targeted for fish removal using electrofishing and trapping. The outlet of Bass Lake is an upstream fish barrier, and although northern pike may inhabit Mud and Therriault Creeks downstream of Bass Lake, the limited habitat in these waters likely limits their ability to persist.

1. Developed/Residential – 0 acres
2. Industrial – 0 acres
3. Open space/Woodlands/Recreation – 0 acres
4. Wetlands/Riparian –13 acres
5. Floodplain – .13 acres
6. Irrigated Cropland – 0 acres
7. Dry Cropland – 0 acres
8. Forestry – 0 acres
9. Rangeland – 0 acres

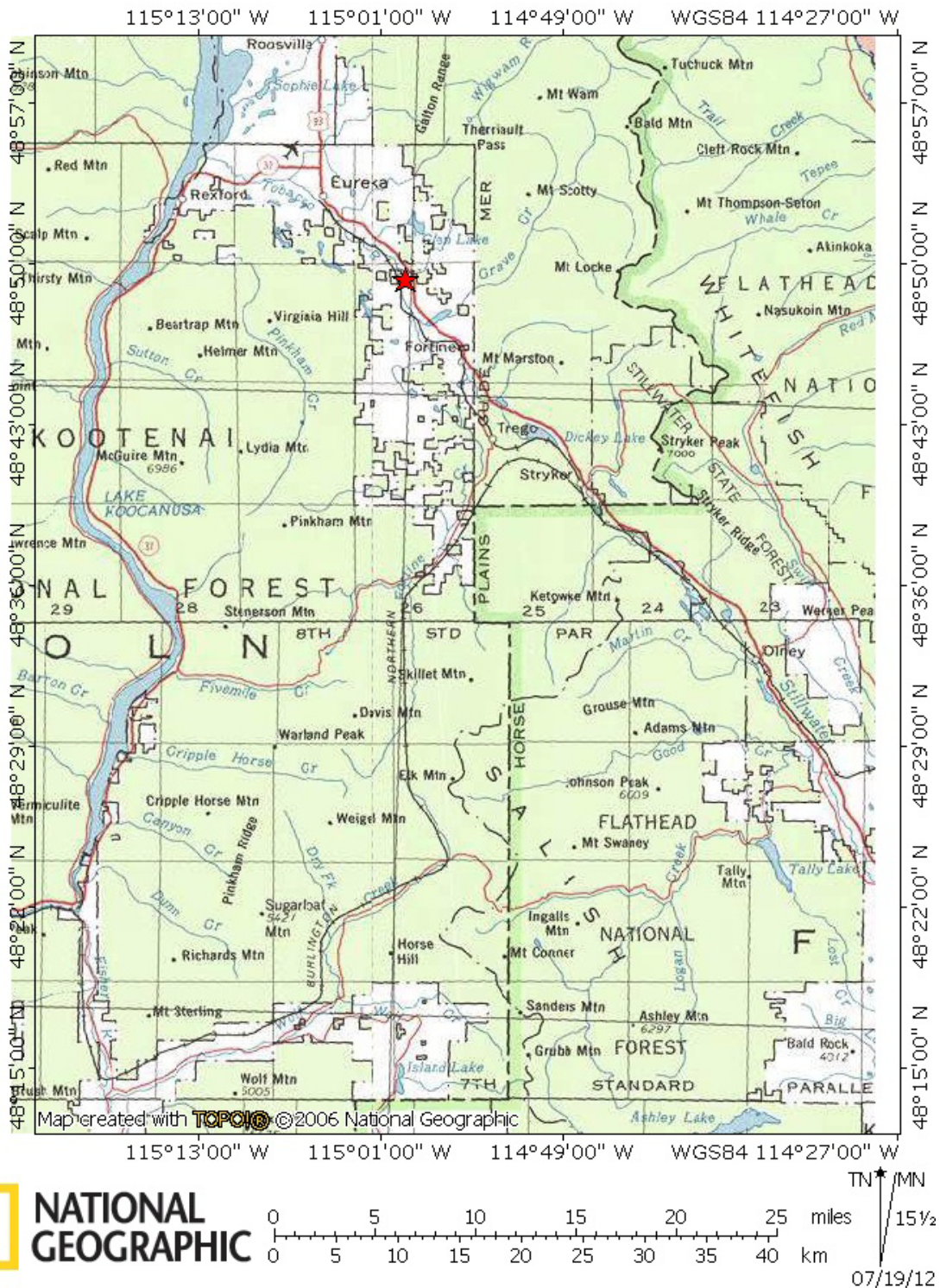


Figure 1. Location of the Bass Lake Restoration Project area (red star), located on the west side of US Hwy. 93 approximately 6 miles southeast of Eureka, Montana.

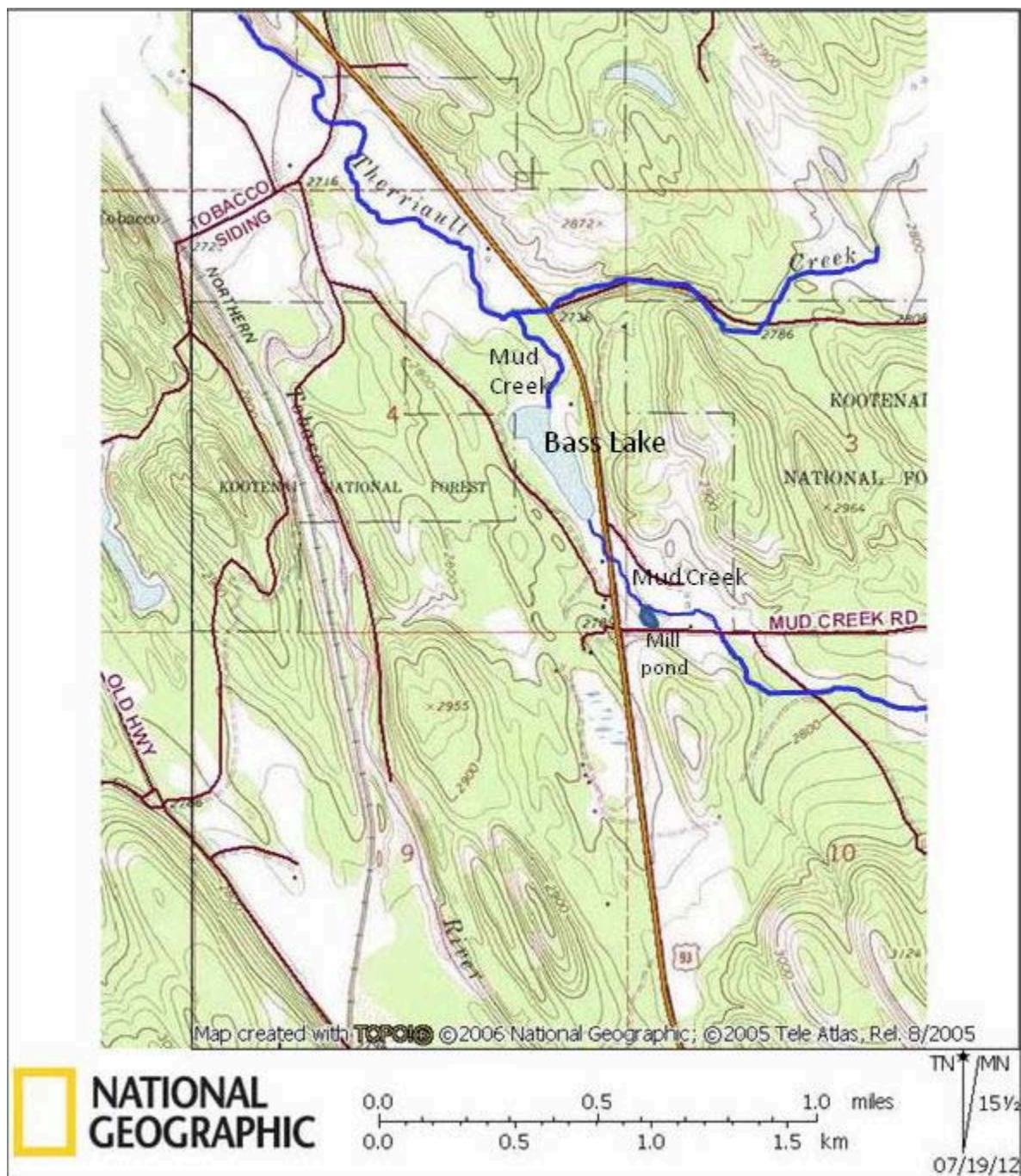


Figure 2. Location of the Bass Lake Restoration Project area, including Bass Lake and Mud Creek. Mud and Therriault Creeks flow in north-western direction.

Bass Lake Bathymetric Map

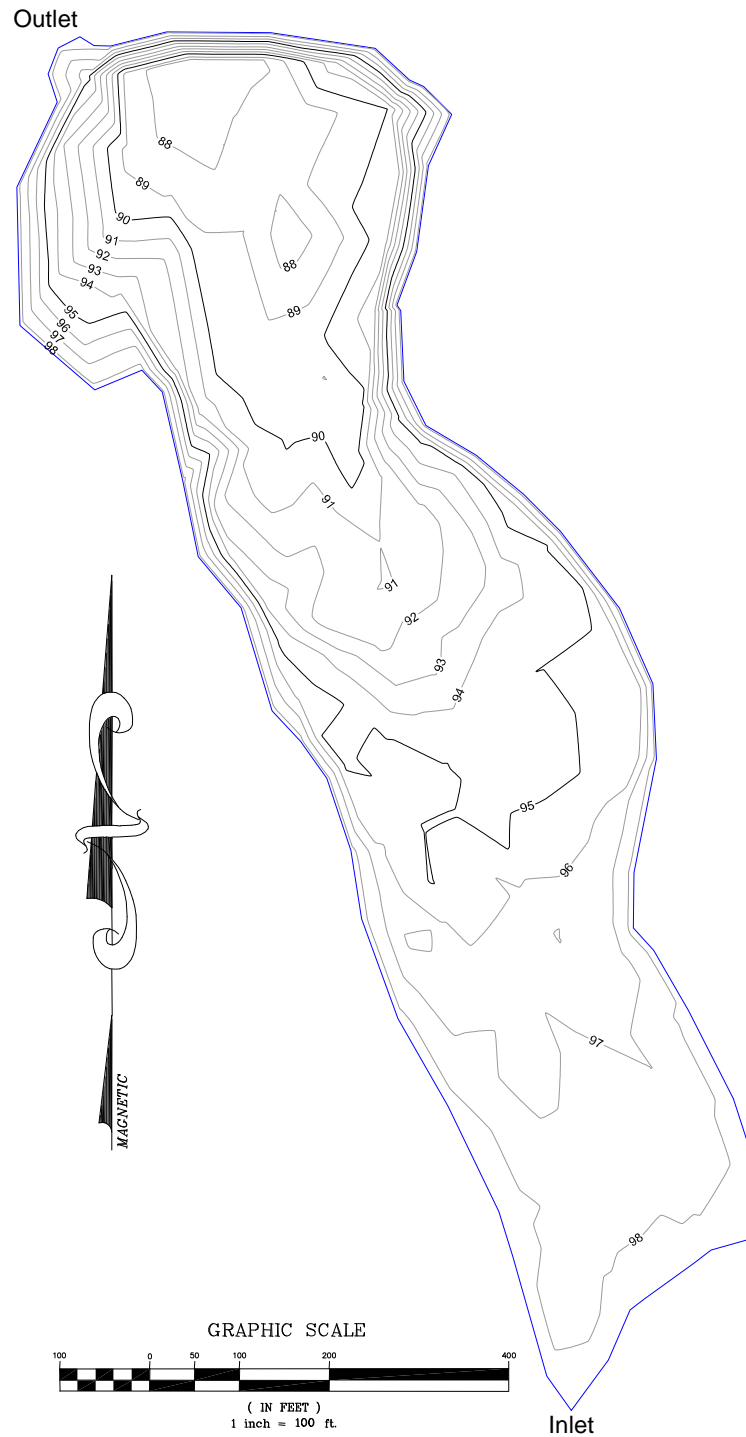


Figure 3. Bathymetric map of Bass Lake (1-foot contour lines) which has a surface area of 11.8 acres, a maximum depth of 11.5 feet, and a volume of 50.6 acre-feet.

F. Narrative Description of Proposed Action:

MFWP will use the following needs and purposes to evaluate the alternatives considered in this EA.

Project Need:

- Eradicate the source of northern pike in Koocanusa Reservoir.

MFWP needs to decide whether to proceed with the proposed alternative to eradicate the source of northern pike in Koocanusa Reservoir and restore native westslope cutthroat trout in Bass Lake and its surrounding waters.

Project Purposes:

- Prevent or contain invasive aquatic nuisance species in Lake Koocanusa.
- Create genetic reserves to conserve native westslope cutthroat trout.
- Implement and evaluate on-the-ground habitat enhancement efforts that alleviate limiting factors such as predation by nonnative northern pike on native westslope cutthroat trout.

Background

Mud Creek originates in the Whitefish Mountain Range and flows approximately 5.7 miles across private and public land (USFS) before flowing into Bass Lake (Figure 1). Mud Creek leaves Bass Lake and flows another 0.3 miles before entering Therriault Creek approximately 0.8 miles upstream of the confluence of Therriault Creek and the Tobacco River (Figure 2). Therriault Creek enters the Tobacco River approximately 12.5 miles upstream of Lake Koocanusa (Figure 1). Bass Lake was created by an earthen impoundment on Mud Creek in the mid to late 1940s. Bass Lake is located on the west side of Highway 93 approximately 6 miles southeast of Eureka, Montana, and has a surface area of 11.8 acres and a maximum depth of approximately 11.5 feet.

Historical fisheries data for Mud Creek is limited. However, the lack of natural barriers prior to the creation of Bass Lake suggests that native species such as cutthroat, bull trout (*Salvelinus confluentus*), and mountain whitefish (*Prosopium williamsoni*) may have historically utilized Mud Creek. In the early 1900s rainbow trout (*Oncorhynchus mykiss*) and brook trout (*Salvelinus fontinalis*) were either introduced to or colonized the Mud Creek watershed. Shortly after the Bass Lake Dam was constructed, largemouth bass (*Micropterus salmoides*) and bluegill (*Lepomis macrochirus*) were illegally introduced to the Mud Creek watershed, and sometime in the mid 1990s northern pike were illegally introduced to Bass Lake (MFWP unpublished data). In 2010, MFWP sampled Bass Lake and Mud Creek and found that northern pike were confined to Bass Lake and that portion of Mud Creek upstream to the fish barrier located approximately 0.26 miles upstream of the lake. Since the construction of Libby Dam in 1972, northern pike observations in the Tobacco River and Lake Koocanusa have been rare, but in the recent years the occurrence of northern pike in MFWP annual gill-netting surveys of Lake Koocanusa has increased. Angler observations of northern pike have also become more frequent, primarily around the mouth of the Tobacco River (MFWP unpublished data). Northern pike reproduction is likely limited in Lake Koocanusa due to fluctuating water levels and the lack of aquatic

vegetation, although the upper end of the reservoir in Canada does provide suitable pike spawning habitat and at least one pike has been captured by British Columbia fisheries biologists. Northern pike were illegally introduced to Bass Lake in the mid to late 1990s, likely contributing to the persistence of northern pike in Lake Koocanusa.

Bass Lake is a small, shallow lake with abundant aquatic vegetation, but a limited prey base, which may contribute to northern pike emigrating from this water body. Lower Mud Creek, Therriault Creek, and the Tobacco River have limited habitat suitable for northern pike. Therefore, the northern pike that emigrate from Bass Lake likely continue to move downstream to Lake Koocanusa. Northern pike are predatory fish that can have detrimental impacts on native species, such as cutthroat and bull trout, and other nongame native species in Therriault Creek, the Tobacco River, and Lake Koocanusa.

Proposed Activities

MFWP proposes to attempt to remove all northern pike from Bass Lake and a short portion of Mud Creek upstream of Bass Lake using a combination of gill netting, trapping, and electrofishing. If pike removal is successful, those waters would be restocked with westslope cutthroat trout from the Washoe Park Hatchery in Anaconda, Montana. This project would define success as the complete removal of all age classes of northern pike from those waters upstream of the Bass Lake outlet that could reestablish a population.

Gill nets are fishing nets set vertically in the water column so that fish swimming into the net are entangled by the gills, teeth, or fins in net mesh. Gill nets are an effective tool fisheries management agencies routinely use to evaluate species composition and relative abundance of fish populations in ponds, lakes, and reservoirs. However, they are seldom used to completely remove a species due to their relatively low capture efficiency. It is unknown if mechanical removal methods are capable of complete removal of northern pike from Bass Lake since pike are naturally reproducing and young pike would be too small to capture with nets. Gill netting has been used successfully to remove unwanted fish from relatively small lakes. Bighorn Lake, a 5.2-acre lake located in Banff National Park in Alberta, Canada, was gillnetted from 1997 to 2000 to remove an unwanted population of brook trout after 10,000 net nights (1 net night = 1 net set overnight for at least 12 hours) over a 4-year period (Parker et al. 2001). The total population totaled 261 fish. Maul Lake, a 3.9-acre lake in the Inyo National Forest in California, was gill netted from 1992 to 1994 to remove a population of 97 brook trout with an effort of 108 net days (Knapp and Mathews 1998). The researchers reported that following the removal of brook trout from Maul Lake, it was mistakenly restocked with rainbow trout. Efforts to remove the rainbow trout using gill nets were implemented immediately. From 1994 through 1997, 4,562 net days were required to remove the 477 rainbow trout from the lake. The researchers have generally concluded that the removal of fish from lakes using gill nets is only possible in relatively shallow and small lakes (> 5 acres) with limited natural reproduction.

However, the relatively small size (11 acres) and shallow depth (less than 12 feet) suggests to MFWP that mechanical removal of northern pike may be achieved with an extended effort. MFWP would use gill nets as the primary removal method over a 2-year period, and then evaluate the progress of the effort. Netting intensity during this period will largely be determined by our ability to net the lake during periods of sparse aquatic vegetation, which will primarily occur during the spring/early summer and fall periods before ice cover. At a maximum, MFWP may set up to twenty nets in Bass Lake up to 2-3 times per week. The gill

nets are 125 feet long and 6 feet deep. The soak time (time a net is allowed to fish) will vary, but will not exceed three days, except during periods of ice cover. Gill nets may be set just prior to ice formation on the lake and allowed to fish until the lake thaws during the spring.

Bass Lake has an approximate surface area of 11 acres (Figure 3). However, in order to decrease the surface area and reduce the shallow areas near the lake inlet, MFWP may investigate lowering the water surface elevation manually by up to 1.4 feet. MFWP would accomplish this by obtaining landowner permission to hand-remove large rocks from the lake outlet that are currently controlling lake elevation and preventing upstream fish migration into the Bass Lake. After complete removal of northern pike, the rocks would be replaced to allow the lake to return to water surface elevation that exists today. Reducing the depth of Bass Lake by 1.4 feet would maintain the existing upstream fish barrier at the lake outlet.

In addition to gill netting, MFWP proposes to use electrofishing (the use of electrical current passed through the water) to attract and momentarily stun fish so that they may be captured. Electrofishing will be primarily conducted in Mud Creek upstream of Bass Lake, which is too shallow and narrow to effectively use nets. Electrofishing may occur approximately weekly over the 2-year period during open water seasons. MFWP may also attempt to use a boat-mounted electrofishing unit to remove northern pike from the lake.

MFWP also proposes to install a trap on the outlet of Bass Lake to prevent northern pike migrating out of the lake from entering downstream waters. The trap would be installed in the late spring of 2013 and remain in operation continuously until all northern pike are successfully removed from the upstream waters. The trap will likely require substantial maintenance activities to remove trapped fish and debris to ensure it does not become clogged. The maintenance activities will be performed by MFWP with assistance from local landowners. The trap would be designed to filter all water exiting the lake and trap all sizes of northern pike leaving the lake.

MFWP may restock Bass Lake with westslope cutthroat trout if all northern pike have been removed from the lake. The hatchery fish would likely come from the Washoe State Hatchery in Anaconda, Montana, and would be age 0 westslope cutthroat trout. However, the decision to restock Bass Lake would occur after discussing the alternative with the landowners surrounding Bass Lake. If stocking were to occur, it would be a single event in order to mitigate for the loss of fish until fish from upper Mud Creek recolonize the lake.

PART II. ALTERNATIVES

Alternative 1 – No Action Alternative

The No Action Alternative would allow status quo management to continue, which would maintain the present angling quality and species diversity in Bass Lake and Mud Creek. Northern pike would continue to propagate in Bass Lake and emigrate into the Tobacco River and Lake Koocanusa and would cause detrimental effects on native fish populations. Implementation of this alternative would not help conserve native salmonids, including cutthroat and bull trout, in the Tobacco River or Lake Koocanusa. An environmental review of this alternative is presented in PART III.

Alternative 2 – Mechanical removal of northern pike from Bass Lake and Mud Creek, and then restocking with westslope cutthroat trout (Proposed Action)

The proposed action involves removing northern pike from Bass Lake and a 0.26-mile portion of Mud Creek immediately upstream of Bass Lake using a combination of gill netting, trapping, and electrofishing. If the removal of northern pike from these waters is successful, the lake may be stocked with westslope cutthroat trout. An environmental review of this alternative is presented in PART IV.

Alternatives considered, but eliminated from detailed study:

Use angling to reduce the number of northern pike in Bass Lake and Mud Creek, and then restock with westslope cutthroat trout.

MFWP has the authority under MFWP Commission rule to modify angling regulations for the purpose of removing unwanted fish from a lake or stream. Unfortunately, this method does not guarantee complete removal of all fish. There are a number of reasons why this method may not work, especially in a lake like Bass Lake, which is surrounded primarily by privately owned land with limited to no public access. First, liberalizing bag limits does not guarantee every angler would keep all of the fish they catch, primarily because of differences in value systems among anglers. Recreational angling has been shown to reduce the average size of fish and reduce population abundance. As the size and abundance of fish decreases, angler success and satisfaction tends to decrease also. For these reasons it may be difficult to attract anglers to a site for voluntary angling, if angling quality is low, such as is the case with Bass Lake. The average size of northern pike MFWP captured in gill nets in Bass Lake in 2010 was about 22 inches (3.2 pounds). Secondly, very small northern pike in Bass Lake and Mud Creek would not be vulnerable to angling, leaving many fish in the lake unsusceptible to capture via angling and with an opportunity to grow and reproduce. Finally, the vast majority of shoreline on Bass Lake is privately owned, and there is no public access to the lake. In order for this alternative to be successful, a sustained angling effort over a long period would be required, which would likely be contrary to the landowners' priorities. Lifting bag limits on the lake would not likely succeed in removing fish due to difficulty in access. The amount of time required for anglers to depress or remove all fish from a lake or stream would likely require many years to accomplish. For these reasons this method of fish removal was considered unreliable at achieving complete fish removal from Bass Lake and Mud Creek and was eliminated from further analysis.

The use of chemicals (rotenone) to remove northern pike from Bass Lake and Mud Creek, and then restocking with westslope cutthroat trout.

MFWP previously completed a draft EA dated August 9, 2012, that proposed to use rotenone to remove unwanted pike as a preferred alternative action. However, during the public comment process, several landowners living near Bass Lake did not support the project and expressed concerns about the human health risk of rotenone associated with the preferred alternative. They also questioned whether Bass Lake pike were entering Tobacco River/Lake Koocanusa and whether other removal methods would eliminate northern pike.

Although MFWP considers rotenone use, with exposure minimization measures, to be safe and effective, MFWP acknowledged the public's concerns and decided to explore alternative methods to remove the northern pike from Bass Lake and Mud Creek and evaluate the effectiveness of those alternative methods over a 2-year period.

PART III. ENVIRONMENTAL REVIEW OF THE NO ACTION ALTERNATIVE

A. PHYSICAL ENVIRONMENT

1. LAND RESOURCES	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Soil instability or changes in geologic substructure?		X				
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil, which would reduce productivity or fertility?		X				
c. Destruction, covering, or modification of any unique geologic or physical features?		X				
d. Changes in siltation, deposition, or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?		X				
e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?		X				

2. WATER	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Discharge into surface water or any alteration of surface water quality, including but not limited to temperature, dissolved oxygen, or turbidity?		X				
b. Changes in drainage patterns or the rate and amount of surface runoff?		X				
c. Alteration of the course or magnitude of flood water or other flows?		X				
d. Changes in the amount of surface water in any water body or creation of a new water body?		X				
e. Exposure of people or property to water-related hazards such as flooding?		X				
f. Changes in the quality of groundwater?		X				
g. Changes in the quantity of groundwater?		X				
h. Increase in risk of contamination of surface or groundwater?		X				
i. Effects on any existing water right or reservation?		X				
j. Effects on other water users as a result of any alteration in surface or groundwater quality?		X				
k. Effects on other users as a result of any alteration in surface or groundwater quantity?		X				
l. Will the project affect a designated floodplain?		X				
m. Will the project result in any discharge that will affect federal or state water quality regulations? (Also see 2a)		X				

3. AIR	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Emission of air pollutants or deterioration of ambient air quality? (Also see 13c.)		X				
b. Creation of objectionable odors?		X				
c. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally?		X				
d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?		X				
e. Will the project result in any discharge which will conflict with federal or state air quality regulations?		X				

4. VEGETATION	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Changes in the diversity, productivity, or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)?		X				
b. Alteration of a plant community?		X				
c. Adverse effects on any unique, rare, threatened, or endangered species?		X				
d. Reduction in acreage or productivity of any agricultural land?		X				
e. Establishment or spread of noxious weeds?		X				
f. Will the project affect wetlands, or prime and unique farmland?		X				

5. FISH/WILDLIFE	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Deterioration of critical fish or wildlife habitat?		X				
b. Changes in the diversity or abundance of game animals or bird species?			X		no	5b
c. Changes in the diversity or abundance of nongame species?			X		no	5b
d. Introduction of new species into an area?				X	no	5d
e. Creation of a barrier to the migration or movement of animals?		X				
f. Adverse effects on any unique, rare, threatened, or endangered species?			X			5b
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest, or other human activity)?		X				
h. Will the project be performed in any area in which threatened and endangered (T&E) species are present, and will the project affect any T&E species or their habitat? (Also see 5f.)		X				
i. Will the project introduce or export any species not presently or historically occurring in the receiving location?		X				5d

Comment 5b: The No Action Alternative would continue to allow predatory northern pike to persist, reproduce, and potentially migrate from Bass Lake into the Tobacco River and Lake Koocanusa. The presence of northern pike in the Tobacco River and Lake Koocanusa may have detrimental ecological impacts on native game fish species (cutthroat and bull trout [threatened]), nonnative fish species (rainbow trout, mountain whitefish, brook trout, and kokanee salmon [*Oncorhynchus nerka*]), and native nongame fish species within these waters, which reduces their abundance or distribution sufficiently to limit their persistence.

Comment 5d: MFWP would not stock fish in Bass Lake under the No Action Alternative. Northern pike would continue to persist and reproduce in Bass Lake, and continue to provide a potential source for additional illegal introductions of northern pike into regional waters that currently do not contain northern pike. Additionally, northern pike will likely continue to migrate out of Bass Lake into the Tobacco River and Lake Koocanusa, which could eventually result in sufficient abundance of northern pike in these waters to create self-sustaining populations.

B.HUMAN ENVIRONMENT

6. NOISE/ELECTRICAL EFFECTS	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Increases in existing noise levels?		X				
b. Exposure of people to severe or nuisance noise levels?		X				
c. Creation of electrostatic or electromagnetic effects that could be detrimental to human health or property?		X				
d. Interference with radio or television reception and operation?		X				

7. LAND USE	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Alteration of or interference with the productivity or profitability of the existing land use of an area?		X				
b. Conflict with a designated natural area or area of unusual scientific or educational importance?		X				
c. Conflict with any existing land use, the presence of which would constrain or potentially prohibit the proposed action?		X				
d. Adverse effects on or relocation of residences?		X				

8. RISK/HEALTH HAZARDS	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Risk of an explosion or release of hazardous substances (including, but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or other forms of disruption?		X				
b. Affect an existing emergency response or emergency evacuation plan or create a need for a new plan?		X				
c. Creation of any human health hazard or potential hazard?		X				
d. Will any chemical toxicants be used?		X				

9. COMMUNITY IMPACT	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Alteration of the location, distribution, density, or growth rate of the human population of an area?		X				
b. Alteration of the social structure of a community?		X				
c. Alteration of the level or distribution of employment or community or personal income?		X				
d. Changes in industrial or commercial activity?		X				
e. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods?		X				

10. PUBLIC SERVICES/TAXES/UTILITIES	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Will the proposed action have an effect upon or result in a need for new or altered governmental services in any of the following areas: fire or police protection, schools, parks/recreational facilities, roads or other public maintenance, water supply, sewer or septic systems, solid waste disposal, health, or other governmental services?		X				
b. Will the proposed action have an effect upon the local or state tax base and revenues?		X				
c. Will the proposed action result in a need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?		X				
d. Will the proposed action result in increased used of any energy source?		X				
e. Define projected revenue sources		X				
f. Define projected maintenance costs		X				

11. AESTHETICS/RECREATION	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?		X				
b. Alteration of the aesthetic character of a community or neighborhood?		X				
c. Alteration of the quality or quantity of recreational/tourism opportunities and settings?			X			See 11c
d. Will any designated or proposed wild or scenic rivers, trails or wilderness areas be impacted?		X				

Comment 11c: The No Action Alternative would continue to allow predatory northern pike to persist, reproduce and potentially migrate from Bass Lake into the Tobacco River and Lake Koocanusa, which could lead to the establishment of self-sustaining populations of northern pike in these waters. Northern pike predation on species of game fish may reduce the abundance of the prey species in the receiving waters, thus reducing angling opportunity for these species in these waters. Angling opportunities for northern pike in downstream waters may be increased, but this would likely occur at the expense of other popular game fish species including cutthroat, rainbow, bull trout and mountain whitefish. The majority of Bass Lake and Mud Creek are located on private lands that lack public access. Current angling opportunity in Bass Lake and Mud Creek is extremely limited and therefore recreational use is low. This situation would likely remain unchanged under this alternative. MFWP would not stock any fish in Bass Lake under this alternative.

12. CULTURAL/HISTORICAL RESOURCES	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Destruction or alteration of any site, structure or object of prehistoric, historic, or paleontological importance?		X				
b. Physical change that would affect unique cultural values?		X				
c. Effects on existing religious or sacred uses of a site or area?		X				
d. Will the project affect historic or cultural resources?		X				

13. SUMMARY EVALUATION OF SIGNIFICANCE	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action, considered as a whole:						
a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources, which create a significant effect when considered together or in total.)		X				
b. Involve potential risks or adverse effects which are uncertain but extremely hazardous if they were to occur?		X				
c. Potentially conflict with the substantive requirements of any local, state, or federal law, regulation, standard, or formal plan?		X				
d. Establish a precedent or likelihood that future actions with significant environmental impacts will be proposed?		X				
e. Generate substantial debate or controversy about the nature of the impacts that would be created?		X				
f. Is the project expected to have organized opposition or generate substantial public controversy?		X				
g. List any federal or state permits required.		X				
h. List any anticipated or potential cumulative impacts associated with this alternative.	X					13h.

Comment 13h: The continued existence of northern pike in Bass Lake and Mud Creek could lead to the establishment of a population of northern pike in Lake Koocanusa. Bull Trout are listed as threatened under the Endangered Species Act (ESA) (16 U.S.C. 1531 et seq.), with several contributing factors responsible for declines from historic levels, including predation and competition with nonnative fish species (Montana FWP 1996). Increased distribution of northern pike within the upper Kootenai River watershed may result in further decline in bull trout abundance and distribution and ultimately limit recovery efforts for this species.

PART IV. ENVIRONMENTAL REVIEW OF PROPOSED ACTION

A. PHYSICAL ENVIRONMENT

1. LAND RESOURCES	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Soil instability or changes in geologic substructure?		X				
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil, which would reduce productivity or fertility?			X			1b
c. Destruction, covering, or modification of any unique geologic or physical features?		X				
d. Changes in siltation, deposition, or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?		X				
e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?		X				

Comment 1b: To minimize the surface area of Bass Lake and concentrate northern pike in the lake, and to increase the potential to meet project objectives in the shortest duration possible, MFWP may elect to lower the water surface elevation up to 1.4 feet with the landowner's permission. This would be done by hand-removing large rocks from the lake outlet that are currently controlling lake elevation. The action would temporarily increase flows in Mud Creek below Bass Lake, but it would be done incrementally over several weeks during late summer, when stream flows are at their lowest, to avoid any potential for downstream flooding. After complete removal of all northern pike, the rocks would be replaced to allow the lake to return to the water surface elevation that exists currently. Any alterations in stream flow in Mud Creek, Therriault Creek, or the Tobacco River would be short-term and minor.

2. WATER	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Discharge into surface water or any alteration of surface water quality, including but not limited to temperature, dissolved oxygen, or turbidity?		X				
b. Changes in drainage patterns or the rate and amount of surface runoff?					Yes	2b
c. Alteration of the course or magnitude of flood water or other flows?		X				
d. Changes in the amount of surface water in any water body or creation of a new water body?		X				
e. Exposure of people or property to water-related hazards such as flooding?		X				
f. Changes in the quality of groundwater?		X				
g. Changes in the quantity of groundwater?		X				
h. Increase in risk of contamination of surface or groundwater?		X				
i. Effects on any existing water right or reservation?		X				
j. Effects on other water users as a result of any alteration in surface or groundwater quality?		X				
k. Effects on other users as a result of any alteration in surface or groundwater quantity?		X				
l. Will the project affect a designated floodplain?		X				
m. Will the project result in any discharge that will affect federal or state water quality regulations? (Also see 2a)		X				

Comment 2b: To minimize the surface area of Bass Lake, and to increase the potential to meet project objectives in the shortest duration possible, MFWP may elect to lower the water surface elevation up to 1.4 feet with landowner permission. This would be done by hand-removing large rocks from the lake outlet that are currently controlling lake elevation. The action would temporarily increase flows in Mud Creek below Bass Lake, but it would be done incrementally over several weeks during late summer, when stream flows are at their lowest, to avoid any potential for downstream flooding. After complete removal of all northern pike, the rocks would be replaced to allow the lake to return to the water surface elevation that currently exists. Any alterations in stream flow in Mud Creek, Therriault Creek, or the Tobacco River would be short-term and minor.

3. AIR	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Emission of air pollutants or deterioration of ambient air quality? (Also see 13c.)			X			3a
b. Creation of objectionable odors?			X		yes	3b
c. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally?		X				
d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?		X				
e. Will the project result in any discharge, which will conflict with federal or state air quality regulations?		X				

Comment 3a: This project would use a small boat and outboard motor to deploy and retrieve gill nets in Bass Lake, which would create some emissions, but the emissions are expected to dissipate rapidly. Any impacts from these odors would be short-term and minor.

Comment 3b: Dead fish would result from this project, which would create the potential for objectionable odors. However, the dead fish would remain in the gill nets until they are retrieved. Objectionable odors would be minimized by limiting the duration the nets are allowed to fish and performing frequent retrievals. Dead fish will be removed and disposed of in a landfill. MFWP expects any odors from dead fish to be short-term and minor to the local area.

4. VEGETATION	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Changes in the diversity, productivity, or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)?			X			4a
b. Alteration of a plant community?		X				
c. Adverse effects on any unique, rare, threatened, or endangered species?		X				4c
d. Reduction in acreage or productivity of any agricultural land?		X				
e. Establishment or spread of noxious weeds?		X				
f. Will the project affect wetlands, or prime and unique farmland?		X				4f

Comment 4a: Bass Lake and the portion of Mud Creek proposed to be treated are located on private land along Highway 93. The lake would be accessed across 150 feet of mowed grass, and the stream would be accessed from the highway right-of-way. There may be minor trampling of vegetation around the lake and creek during the netting, trapping, and electrofishing activities. Impacts from trampling vegetation are expected to be short-term and minor.

Comment 4c: There are no known unique, rare, threatened, or endangered plant species including Spalding's campion (*Silene spaldingii*) or water howellia (*Howellia aquatilis*) known to occupy the Bass Lake or lower Mud Creek. Therefore, this project would have no effect on unique, rare, or threatened plant species. Additionally, MFWP consulted informally with the USFWS on the effects to bull trout and determined there would be "no effect" from the proposed action. USFWS agreed with MFWP's "no effect" determination in concurrence dated April 17, 2013.

Comment 4f: There will be no impact to prime and unique farmland because no such land types exist within the project area.

5. FISH/WILDLIFE	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Deterioration of critical fish or wildlife habitat?		X				
b. Changes in the diversity or abundance of game animals or bird species?			X		yes	5b
c. Changes in the diversity or abundance of nongame species?			X		yes	5c
d. Introduction of new species into an area?			X			5d
e. Creation of a barrier to the migration or movement of animals?		X				
f. Adverse effects on any unique, rare, threatened, or endangered species?			X			5f
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest, or other human activity)?		X				5g
h. Will the project be performed in any area in which threatened and endangered (T&E) species are present, and will the project affect any T&E species or their habitat? (Also see 5f)		X				
i. Will the project introduce or export any species not presently or historically occurring in the receiving location? (Also see 5d.)			X			5i See 5d

Comment 5b: This project is designed to kill northern pike, a designated game species in Montana that may have undesired ecological impacts on other game fish species within the Tobacco River watershed and Lake Koocanusa. Although the proposed project would negatively affect the northern pike fishery, the impact from the removal of these fish is expected to benefit the native species including cutthroat and bull trout by eliminating predation from northern pike. Brook trout and bluegill are also present in Bass Lake and Mud Creek. These species will also be captured in gill nets. However, the impacts to brook trout and bluegill as a result of this project are expected to be short-term and minor to the overall population to those species within the general vicinity since they occur upstream of the project area and will recolonize the lake after netting activities cease. The elimination of the predatory pike in Bass Lake will likely allow for an increase in brook trout, blue gill, and native species populations present in the lake and upstream of the lake over time.

After the successful removal of northern pike, MFWP may stock the lake with juvenile cutthroat trout, and although MFWP has never stocked Bass Lake in the past, cutthroat trout were probably historically present within the Mud Creek drainage. The stocking of cutthroat trout in Bass Lake would not pose an ecological risk to other species present within the region, including bull trout, because bull trout are not currently present in the Mud Creek watershed. This project would produce dead fish that may be an attractant for black bears, but black bears are not dependent on fish for food. Predator scavenging would also be minimized by prompt removal of dead fish from the nets and disposal in a landfill. However, MFWP expects that any changes in the distribution of black bears as a result of this project would be short-term and minor and would be further mitigated by collection and disposal of dead fish.

Comment 5c: This project is designed to remove northern pike using a combination of gill netting and electrofishing. However, these methods, especially gill netting, could potentially capture and kill nontargeted nongame wildlife species. The potential impacts are analyzed and discussed below.

Aquatic Invertebrates: MFWP searched the Montana Natural Heritage Program website and found no invertebrate species of concern within the project area. Nevertheless, MFWP expects the fish removal efforts to have no impact on aquatic invertebrates in Bass Lake or Mud Creek.

Amphibians and Reptiles: MFWP observed spotted frogs (*Rana pretiosa*) and long-toed salamanders (*Ambystoma macrodactylum*) within the project area. Other amphibian species that may be present in the project area include western toads (*Bufo boreas*) and Pacific chorus frogs (*Pseudacris regilla*). Western terrestrial garter snakes (*Thamnophis elegans*), common garter snakes (*Thamnophis sirtalis*), painted turtles (*Chrysemys picta*) and racer snakes (*Coluber constrictor*) likely inhabit the project area, as are rubber boa snakes (*Charina bottae*), western skinks (*Eumeces skiltonianus*), and northern alligator lizards (*Elgaria coerulea*). However, MFWP has not observed any of these species in the vicinity of the project area during pretreatment surveys. The gill netting activities are unlikely to capture any of these species. However, some of the aquatic species listed above may be captured during electrofishing activities, but would be immediately released. Mortality from electrofishing is expected to be nonexistent to very low. Therefore, based on this information MFWP would expect the impacts to nontarget organisms to range from nonexistent to short-term and minor.

Mammals and Birds: Some species of wildlife around Bass Lake may be either temporarily displaced, as a result of the loss of fish as a food source during the period between the fish removal and the restocking of cutthroat trout in the lake, or incidentally captured in the gill nets. These species may include osprey, common loons, trumpeter swans (*Cygnus buccinato*), bald eagles (*Haliaeetus leucocephalus*), belted kingfishers (*Megaceryle alcyon*), common mergansers (*Mergus merganser*), western grebes (*Aechmophorus occidentalis*), mink (*Neovison vison*), and muskrats (*Ondatra zibethicus*). All of these species may likely be displaced to adjacent streams/lakes during the gill netting activities. These species may also occasionally become entangled and drown in the gill nets. MFWP will attempt to minimize bycatch of unintended animals by limiting the duration nets are allowed to fish before removing dead fish from them.

Based on above the information, impacts to nontarget mammals and birds would range from nonexistent to short-term and minor.

Comment 5d: This project involves stocking Bass Lake with hatchery-reared westslope cutthroat trout. The lake would be stocked with up to 1,000 hatchery cutthroat trout fry the following summer after northern pike are successfully removed from the lake. Although MFWP has not observed westslope cutthroat in Mud Creek in recent years, westslope cutthroat trout are a native species currently present in Theriault Creek. Since Mud Creek is a tributary to Theriault Creek and there were no known historical fish barriers within Mud Creek, MFWP concluded that westslope cutthroat were historically present in Mud Creek. Therefore, the impact of stocking of westslope cutthroat trout on other wildlife species are expected to range from nonexistent to minor.

Comment 5f: Bull trout are listed as a threatened species under the Endangered Species Act (ESA) (16 U.S.C. 1531 et seq.), but are not known to exist within Bass Lake or Mud Creek. The outlet structure of Bass Lake is currently an upstream fish barrier that precludes bull trout from colonizing Mud Creek upstream of the lake outlet. Therefore, MFWP anticipates that this project would have no impacts on bull trout populations. Additionally, MFWP consulted informally with the USFWS on the effects to bull trout and determined there would be “no effect” from the proposed action. USFWS agreed with MFWP’s “no effect” determination in correspondence to MFWP dated April 17, 2013.

Bald eagles were federally delisted from the ESA on June 28, 2007, but MFWP still considers them a sensitive species. There is an active bald eagle nest located approximately 1 mile northwest of Bass Lake. However, bald eagles and ospreys are relatively common in the Tobacco Valley. Osprey or eagles could attempt to forage on fish entangled in gill nets. MFWP will attempt to minimize bycatch of unintended animals by limiting the duration nets are allowed to fish before removing dead fish from them. Because Bass Lake would be restocked with westslope cutthroat, and brook trout are present in Mud Creek upstream of the project, prey species would continue to be available to osprey or eagles that may fish the area. Any impacts to bald eagles and ospreys as a result of this project are expected to be short-term and minor.

Grizzly bears (*Ursus arctos horribilis*) are known to be in this area, but are not dependent on Bass Lake or fish in the lake or Mud Creek for food. The infrequent sighting of grizzly bears within the project area, and the human activity in the area during the project implementation, would reduce the potential for interactions with grizzly bears. Additionally, MFWP consulted informally with the USFWS on the effects to grizzly bears and determined there

would be “no effect” from the proposed action. USFWS agreed with MFWP’s “no effect” determination in correspondence to MFWP dated April 17, 2013.

In 2011, the US Congress delisted the gray wolf (*Canis lupus*) from the ESA in Montana, but MFWP classifies them as a game species. The project site is within the range of the gray wolf. However, gray wolves are not dependent on fish as a source of food or on Bass Lake or Mud Creek as important habitat. Therefore, the impacts of the proposed action on gray wolves would be nonexistent for the same reasons as the grizzly bear.

MFWP did not observe any common loons at Bass Lake during surveys (MFWP, unpublished data); however, loons may occasionally use the lake for foraging. Loons could attempt to forage on fish entangled in gill nets. MFWP will attempt to minimize bycatch of unintended animals by limiting the duration nets are allowed to fish before removing dead fish from them. Loons may be temporarily displaced from the lake during the fish removal process on Bass Lake. However, there are numerous fish-bearing lakes within a few miles of the project that can be easily used by loons in the area.

The project area is within the historic range of the Coeur d’Alene salamander (*Plethodon idahoensis*). The habitat requirement for this species includes splash zones of alpine waterfalls above 4,000-ft elevation. The Montana Natural Heritage program designates this species as a G4, S2, meaning that it is considered a sensitive species due to low abundance or limited information. No Coeur d’Alene salamanders have been observed or reported in the project area, and the habitat requirements for this species are not present within the project area. This project would not impact Coeur d’Alene salamanders or their habitat.

Canada lynx (*Lynx Canadensis*) may be present within the general vicinity of the project area, but no known denning sites are known to occur within the area (MFWP, unpublished data). It is very unlikely that Canada lynx would be captured in gill nets or attempt to consume fish entangled in gill nets. Therefore, based on this information, MFWP believes the proposed project would not affect Canada lynx. Additionally, MFWP consulted informally with the USFWS on the effects to Canada lynx and determined there would be “no effect” from the proposed action. USFWS agreed with MFWP’s “no effect” determination in correspondence to MFWP dated April 17, 2013.

On April 15, 2013, MFWP contacted the US Fish and Wildlife Service to determine if formal consultation with the US Fish and Wildlife Service was needed regarding impacts to ESA threatened and endangered species within the project area. MFWP determined that there would be “no effect” to threatened and endangered species. The US Fish and Wildlife Service concurred with this determination on April 17, 2013.

Comment 5g. This project would utilize boat and motor on Bass Lake, and several MFWP personnel would be working on the lake and a short portion of Mud Creek during the implementation of this project. The most intense human activity at the lake and the stream would occur during the spring to fall period during gill netting and electrofishing activities. During this period, the human activity would likely be slightly higher than the area receives during most times of the year. However, the proposed project is located next to Highway 93, and there are several residences nearby, so these activities are not expected to increase wildlife stress.

Comment 5i. MFWP would restock Bass Lake with westslope cutthroat trout. Even though MFWP has not previously stocked Bass Lake with cutthroat trout, this native species was likely historically present within the Mud Creek drainage (see Comment 5d).

B.HUMAN ENVIRONMENT

6. NOISE/ELECTRICAL EFFECTS	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Increases in existing noise levels?			X			6a
b. Exposure of people to severe or nuisance noise levels?		X				
c. Creation of electrostatic or electromagnetic effects that could be detrimental to human health or property?		X				
d. Interference with radio or television reception and operation?		X				

Comment 6a: A small boat motor would be used to set and retrieve gill nets for this project. However, the proposed project is located adjacent to US Highway 93, which creates a fair amount of noise, so noise generated by the project should be consistent with the current noise levels.

7. LAND USE	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Alteration of or interference with the productivity or profitability of the existing land use of an area?		X				
b. Conflict with a designated natural area or area of unusual scientific or educational importance?		X				
c. Conflict with any existing land use whose presence would constrain or potentially prohibit the proposed action?		X				
d. Adverse effects on or relocation of residences?		X				

8. RISK/HEALTH HAZARDS	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Risk of an explosion or release of hazardous substances (including, but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or other forms of disruption?		X				
b. Affect an existing emergency response or emergency evacuation plan or create a need for a new plan?		X				
c. Creation of any human health hazard or potential hazard?		X				
d. Will any chemical toxicants be used?		X				

9. COMMUNITY IMPACT	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Alteration of the location, distribution, density, or growth rate of the human population of an area?		X				
b. Alteration of the social structure of a community?		X				
c. Alteration of the level or distribution of employment or community or personal income?		X				
d. Changes in industrial or commercial activity?		X				
e. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods?		X				

10. PUBLIC SERVICES/TAXES/UTILITIES	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Will the proposed action have an effect upon or result in a need for new or altered governmental services in any of the following areas: fire or police protection, schools, parks/recreational facilities, roads or other public maintenance, water supply, sewer or septic systems, solid waste disposal, health, or other governmental services? If any, specify: _____		X				
b. Will the proposed action have an effect upon the local or state tax base and revenues?		X				
c. Will the proposed action result in a need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?		X				
d. Will the proposed action result in increased used of any energy source?		X				
e. Define projected revenue sources		X				
f. Define projected maintenance costs		X				See 10f

Comment 10f: The estimated cost to implement the removal of northern pike from Bass Lake is approximately \$40,000, including the cost of a single westslope cutthroat trout stocking event. MFWP does not anticipate any maintenance costs after the successful removal of northern pike from Bass Lake.

11. AESTHETICS/RECREATION	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?		X				
b. Alteration of the aesthetic character of a community or neighborhood?		X				
c. Alteration of the quality or quantity of recreational/tourism opportunities and settings?			X		Yes	11c
d. Will any designated or proposed wild or scenic rivers, trails, or wilderness areas be impacted?		X				See 11c

Comment 11c: This project is designed to eradicate a population of illegally-stocked northern pike in Bass Lake, and a potential source of northern pike to downstream waters. The majority of Bass Lake and the short portion of Mud Creek that would be impacted by this project are located on private lands that lack public access. Current angling opportunity in Bass Lake and Mud Creek is extremely limited and therefore recreational use is low. This project would restock Bass Lake with cutthroat trout to help mitigate for the limited loss of northern pike recreational opportunity in Bass Lake. The removal of northern pike from Bass Lake may reduce the abundance of northern pike in the Tobacco River and Lake Koocanusa, which may also reduce predation on other popular game species of fish including cutthroat, rainbow, bull trout, and mountain whitefish. Therefore, the impact of the project on any public use of scenic rivers, trails, or wilderness areas would be short-term and minor.

12. CULTURAL/HISTORICAL RESOURCES	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Destruction or alteration of any site, structure or object of prehistoric, historic, or paleontological importance?		X				
b. Physical change that would affect unique cultural values?		X				
c. Effects on existing religious or sacred uses of a site or area?		X				12c
d. Will the project affect historic or cultural resources?		X				

Comment 12c: The project site is located within the aboriginal range of the Confederated Salish and Kootenai Tribes of the Flathead Nation and the Kootenai Tribe of Idaho. In July 2012, cultural officers for these tribes were contacted. To date there have been no cultural or religious resources identified at the project site. There would be no ground-breaking activities associated with this project and no known cultural or religious ceremonies proposed for the same time this project is proposed. Therefore, there would be no impacts to historical or cultural resources.

13. SUMMARY EVALUATION OF SIGNIFICANCE	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action, considered as a whole:						
a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources, which create a significant effect when considered together or in total.)		X				
b. Involve potential risks or adverse effects, which are uncertain but extremely hazardous if they were to occur?		X				
c. Potentially conflict with the substantive requirements of any local, state, or federal law, regulation, standard, or formal plan?		X				
d. Establish a precedent or likelihood that future actions with significant environmental impacts will be proposed?		X				
e. Generate substantial debate or controversy about the nature of the impacts that would be created?	X				Yes	13e
f. Is the project expected to have organized opposition or generate substantial public controversy?	X					13e and 13f
g. List any federal or state permits required or joint or overlapping authorities.		X				
h. List any anticipated or potential cumulative impacts associated with this alternative.		X				13h

Comments 13e and f: The removal of game fish species can generate controversy from some people. Public outreach and information programs can educate the public on related fisheries management activities. It is not known if this project would have organized opposition.

Comment 13h: If successful, the project has the potential to reestablish a native species, westslope cutthroat trout, into a drainage it historically existed in, thus expanding its overall presence within Montana's waters.

PART V. ENVIRONMENTAL ASSESSMENT CONCLUSION SECTION

Is an environmental impact statement required?

MFWP concludes that an EIS is not required for the implementation of this project. MFWP further concludes from the information presented in this document that the proposed activities will have either no impact or a positive impact on the physical and human environment. Any potential negative impacts are minor and can be mitigated below significance criteria (12.2.432 ARM).

Public involvement:

The draft EA is being distributed to all individuals and groups listed in the cover letter and those who provided comment to the previous Bass Lake Restoration Project EA. The EA will be placed on the MFWP web site (<http://fwp.mt.gov/news/publicNotices/>), and at the Bonneville Power Administration website (http://efw.bpa.gov/environmental_services/nepadocs.aspx).

Comment period:

There will be a 30-day public comment period for this EA. Comments will be accepted through June 8, 2013. Submit comments to: Montana Fish, Wildlife & Parks, Attention: Jim Dunnigan, 385 Fish Hatchery Road, Libby, MT 59923, or e-mail to jdunnigan@mt.gov.

Person(s) responsible for preparing the EA:

Jim Dunnigan, Fisheries Biologist, MFWP, 385 Fish Hatchery Road, Libby, MT 59923, (406) 293-4161, Extension 200.

REFERENCES

- Knapp, R.A. and K.R. Matthews. 1998. Eradication of nonnative fish by gill netting from a small mountain lake in California. *Restoration Ecology*, vol. 6, 2:207-213.
- MFWP. 1996. Assessments of methods for removal or suppression of introduced fish in bull trout recovery. Montana bull trout scientific group *for* Montana bull trout restoration team, Montana Fish Wildlife & Parks, Helena.
- Parker, B.R., D.W. Schindler, D.B. Donald, and R.S. Anderson. 2001. The effects of stocking and removal of a nonnative salmonid on the plankton of an alpine lake. *Ecosystems* (2001) 4:334-345.